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## POLITICAL AND SOCIOLOGICAL

### POLICE AGENCY FEARS GROWING SOCIAL UNREST IN 1980

OW271109 Tokyo KYODO in English 1048 GMT 27 Dec 79 OW

[Text] Tokyo Dec 27 KYODO--Japan may face growing social unrest, particularly a threat from extreme right and left, in the year 1980 depending on the outcome of the Upper House election in July and price and other economic trends, the National Police Agency said Thursday.

The agency's comment was contained in a report it issued Thursday reviewing law and order in the country in 1979 and the nation's outlook in the coming year.

It said that in the midst of troublesome international developments centering around U.S.-Soviet military power balance and resources diplomacy, Japan registered 6.3 percent economic growth during 1979, the highest record among advanced nations.

However, it added that depending on the outcome of the House of Councillors election scheduled for July, Japan may 'plunge in (the first major) political upheaval since the 1955 conservative merger.'

It said social anxiety may increase with the emergence of signs of stagflation.

Reorganization of organized labor movements may take concrete steps. Leftist and rightist polarization will become apparent.

At the same time, the agency said, authorities must keep an eye on rightist movements calling for 'reforms of the establishment' and radical leftists who have picked enterprises with overseas activities as targets for violent assault.

It also noted that the Japan Communist Party increased its seats in local and House of Representatives elections in 1979 and formally patched up its differences with the Soviet Union for the first time in 15 years.

But it pointed out that the JCP failed to get more than 6 million votes it received in the 1972 general election. The percentage of votes it received also did not exceed the 10 percent it got in 1972.



The National Police Agency estimated JCP membership at 360,000 and the subscribers to the party newspaper AKAHATA at 3 million.

The subscribers, it said, declined by 200,000 from 1977 at the time when the party held its 14th convention. It said that the JCP membership remained virtually unchanged.

The party is scheduled to hold its 15th convention in February and is expected to call for victory in the Upper House election and increases in the membership to 500,000 and the subscribers to 4 million.

The agency noted that the year's spring struggle was conducted under a tight employment situation. Joint struggles between public corporation unions and private unions did not succeed and workers settled for 6 percent wage hikes, the third lowest in history.

The coming spring struggle will be a 'short term battle' because of the scheduled Upper House election and will be settled in late April. Unions will seek 8 percent pay increases.

The question of organized labor reorganization will come up after the summer when various unions hold their annual conventions.

The police agency said radical leftists are believed to number about 35,000. Among them are 4,000 so-called 'black helmeted' radicals who do not belong to any big groups. These people are said to be members of some 320 groups, all small with only several members. Authorities said 123 persons are on the police wanted list.

Black-helmeted terrorist acts numbered 56 during the year, including 13 incidents during the Tokyo economic summit in June.

Police said, however, that bombings by radical leftists may be expected in 1980 as anti-Japanese establishment thought became spread among them centered on the theory of Ainu revolution.

Authorities said the Japan Red Army has remained quiet since its seizure of a Japan Air Lines jetliner in 1977 but added that there is concern about its guerrilla activities abroad.

Police are also concerned about rightist activities in the coming year as 1980 marks the 20th anniversary of the assassination of Socialist Party Chairman Inejiro Asanuma and the 10th anniversary of the 'Hari Kiri' suicide of novelist Yukio Mishima.

CSO: 4120



## POLITICAL AND SOCIOLOGICAL

### RAPID INCREASE IN POPULATION OF 'THE AGED' SEEN

Tokyo KYODO in English time not given 21 Dec 79 OW

[Text] Tokyo Dec 21 KYODO--By the year 2020 almost a fifth of Japan's population will be made up of people over 65, placing a heavy burden on social welfare.

In particular there will be a strong increase in the number of persons aged over 75.

The predictions were contained in a report by the prime minister's office titled "The Situation Regarding Elderly People," presented to cabinet Friday.

The report, consisting of data and recommendations from a number of government departments, is intended to form the basis of future policy formulation.

It estimates that the proportion of elderly people in Japanese society will peak in 2020, with 26 million persons--19 per cent of the population--over 65. By 2030, more than half the elderly population will be over 75 the report predicts.

The report also points out that this rate of population "aging" is much faster than in other developed countries and results from a concurrent decline in both the birth rate and the death rate in Japan.

This rapid increase in the aged population will place an enormous burden on the nation's economy, the report says. It points out that by 2010, 7 million persons will be eligible for old age pensions, double the present number, and 8.9 million will qualify for social welfare, six times the number receiving it at present.

With more and more people over 70 qualifying for free medical care, the report says that in only four years time the cost of this service will reach yen 3.7 trillion, one-fifth of the government's total outlay for medical care.

On the question of employment, the report says that although the private sector is taking steps to raise the retirement age, society as a whole is not adjusting to the need to usefully employ middle-aged and elderly people.

As regards the social implications, the report points out that while married couples today face a shorter period of child raising than before, this will now overlap with a long period of caring for elderly parents.

It also points to the need to maintain elderly people's interest in life and make use of their accumulated wisdom and experience.

The report found that the overwhelming majority of both the older and the younger generation would prefer to have elderly parents live with the family in the traditional way.

In presenting the report, Keizo Obuchi, director general of the prime minister's office, stressed the need to strengthen existing measures for support of the aged.

CSO: 4120

## POLITICAL AND SOCIOLOGICAL

### JAPANESE FOREIGN MINISTRY EMPLOYING MORE PERSONNEL

OW060931 Tokyo KYODO in English 0852 GMT 6 Jan 80 OW

[Text] Tokyo 6 Jan KYODO--Despite severe public criticism of the swollen number of government officers and their spendings, the Foreign Ministry has won 1980 budget approval for the employment of 80 additional personnel whom it declared necessary for Japan to weather the uncertainties of the world in the 1980s.

The ministry plans to increase the number of its civil servants by 1,600 to 5,000 by 1985 from the present 3,400.

Of the 3,400 officers, 1,550 now work at Tokyo headquarters and 1,850 at 163 diplomatic agencies outside Japan.

In pamphlets printed for its personnel campaign, the ministry said its present staff strength was only one-fourth of that of the United States, half that of France and 1,300 less than India's.

The number of officers is less than in prewar days, while they have to handle 10 times more communications volume, six times more foreign aid projects and implement three times more ratified agreements, it said.

Japan today has diplomatic relations with 158 nations, twice as many as 20 years ago.

Japanese visitors to foreign countries have reached an average 4 million a year, 10 times the figures 10 years ago, the ministry asserted, adding that Japanese diplomatic offices abroad also are burdened with an increasing number of crimes, accidents and illness involving Japanese tourists.

Japan must seek more independent policies and judgments than now, and is required to have more information-gathering ability, a high-ranking foreign ministry official said.

The ministry plans to send 1,150 out of the planned additional 1,600 staffers to its embassies around the world and strengthen language education, particularly Middle East languages.

The overtime totaled 162 hours monthly for staffers in a Middle East section and 117 hours for those in an energy section, the ministry complained.

CSO: 4120

## POLITICAL AND SOCIOLOGICAL

### BRIEFS

ALCOHOL MONOPOLY SYSTEM--Tokyo Dec 19 KYODO--The Ministry of International Trade and Industry (MITI) plans to transfer its alcohol monopoly to a privately-controlled business in five years and in order to do so it is pressing for its biggest ever demand on next year's budget to form a new organization to expedite development of energy substitutes, it was learned Wednesday. MITI expected to absorb the alcohol business into the new energy development organization which might develop new energy using alcohol. MITI would propose its project to a ruling Liberal-Democratic Party's Research Council Thursday. Amid the government's attempt to streamline public corporations, MITI was facing difficulty in obtaining support for the new energy body from the Finance Ministry and LDP officials. The alcohol monopoly system came into being in 1937 to produce cheap, industrial alcohol. MITI, however, expected strong opposition to its plan from workers in seven public alcohol factories in Ibaraki, Chiba, Shizuoka, Ehime, Kumamoto and Kagoshima. [Text] [Tokyo KYODO time not given 19 Dec 79 OW]

OMBUDSMAN PROPOSED--Tokyo Dec 20--The Administrative Management Agency decided Thursday to begin studying the creation of an ombudsman post to review the actions of government and public officers. The position of ombudsman, meaning representative, originated in Sweden in 1809. His role was to check claims and complaints from the public against public servants, report the results to the National Assembly, recommend revision of laws and prosecute public officers abusing their powers if necessary. Establishing such a system became an issue in the Diet after high-ranking politicians came under fire for corruption in the Lockheed and other scandals. Prime Minister Masayoshi Ohira has objected to the demand from opposition parties for an ombudsman on grounds that the Diet retains the right to inspect for state affairs. [Text] [Tokyo KYODO in English 0845 GMT 20 Dec 79 OW]

CSO: 4120

## MILITARY

### PERFORMANCE REQUIREMENTS FOR ASDF MT-X TRAINER

Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 pp 7, 8

[Text]

The MT-X, Air Self-Defense Force's intermediate trainer currently in the planning stage, will be about 10 percent faster than the T-33A and the T-1A/B trainers. It will have a maximum speed of Mach 0.85 at high altitudes and will cruise at Mach 0.75. These speeds will enable the MT-X to reach air space authorized for training quicker than T-33As and T-1s after takeoff from training bases.

Endurance of the MT-X in the training air space will be also longer than current trainers. Without additional external tanks, it will be able to remain in training air space for seventy minutes or about 55.6 percent longer than the T-1. The T-1, carrying external fuel tanks, can remain only forty-six minutes.

Range performance of the MT-X will be 750 to 800 nautical miles at its cruising speed of Mach 0.75. With additional fuel, its range can be extended to 900 nautical miles. The T-1A, carrying external tanks, has a range of 480 nautical miles at a cruising speed of Mach 0.7, and the T-1B 460 nautical miles without drop tanks. The T-33A has a range of 700 nautical miles when using external tanks.

Combat performance of the MT-X will compare to the F-86F fighter, with a turning radius less than that of the T-2 supersonic trainer.

While the ASDF intends to start development of the MT-X in FY 1981, the TR&DI, JDA, is now striving to get authorization for an engine development program to start in FY 1980. Although it has been officially defined, the engine is intended for the MT-X. The XF3-20 fanjet engine of 1.4-ton thrust will



be improved under the program to achieve a thrust of 1.66 tons. Powered by two F3 fanjets, the MT-X will have a growth potential for use other than pilot training such as high altitude flight checks, collecting radioactive fallout, target towing, ground air transmission, and liaison flights.

Introduction of the MT-X is expected to bring about substantial reduction in ASDF pilot training time. At present, an ASDF pilot is required to undergo a total of 395 hours of flight training, including 70 hours on the T-3 propeller-driven primary trainer, 85 hours on the T-1 jet trainer, 100 hours on the T-33A jet trainer, and 140 hours on the T-2 supersonic trainer. This contrasts sharply with a total 242 hours by the USAF.

CSO: 4120

MILITARY

ASDF ECM EQUIPMENT PROCUREMENT FOR FY 1980

Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 p 8

[Text]

Among ECM (electronic counter measure) equipment the ASDF plans to procure in FY 1980, there are one unit each of the ALQ-6 system for the F-4EJ fighter and the ALQ-119 system for the F-15 fighter, as well as four units of ALE-40 and -41 chaff dispensers.

The ALQ-6 was developed by the TR&DI and MELCO and the unit to be ordered in FY 1980 will be the first to be installed on the Phantom fighter in operational squadrons. Two or three aircraft each in the F-4EJ squadrons will be equipped with the ALQ-6 system.

The Westinghouse ALQ-119 is a standard USAF equipment. The first unit is being imported during fiscal year 1979. The ASDF will use imported units for evaluation with the F-4EJ and the F-15, while the ALQ-8, a locally developed system for the F-15 will enter the prototype fabrication stage in FY 1980. The ALQ-8 is being developed by TR&DI and MELCO. It is uncertain whether the ALQ-119 or the ALQ-8 will be adopted for the ASDF F-15. In view of different requirements, some sources suggest installation of both systems on the ASDF Eagle fighter.

CSO: 4120

MILITARY

SINGER OFTT EYED FOR MSDF P-3C BASES

Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 pp 8, 9

[Text]

As important equipment for ground training of P-3C crews, the MSDF plans to procure about four sets of the P-3C OFTT (off-the-job training) facilities for installation at P-3C bases. Funds for the first set are requested in the FY 1980 draft budget.

Training of the MSDF P-3C crews will be conducted according to the US Navy syllabus. In this regard, the OFTT of the Singer Co. used by the US Navy will probably be adopted by the MSDF. It is, however, uncertain whether the unit will be imported or be placed in local production. If the MSDF decides to procure the unit from local sources, Mitsubishi Precision is regarded the most likely supplier since the company has technical ties with the US company.

The only Japanese company that has ever produced similar types of equipment, however, is KHI, the prime contractor of the MSDF P-2J antisubmarine patrol aircraft. KHI has proposed to the MSDF an OFTT for the P-3C.

The MSDF, therefore, will have to decide first on procurement methods, import or local production, and then on a local manufacturer, in its efforts to get authorization in FY 1980 for funds to procure the first unit.

CSO: 4120

## MILITARY

### GSDf STARTS SELECTION OF NEW 155MM HOWITZER

Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 pp 9,10

[Text]

Following selection of the M110A2 203mm howitzer, the GSDf has started work to select a new 155mm howitzer for its artillery divisions. Planned for local production, the new howitzer will be selected by the end of March 1980 from among the M198 of the US Army, the FH-70 of Sweden, and the FH-77 in service with British, German, and Italian armies.

The new howitzer will replace 1) the tractor-drawn 155mm howitzers and 2) the Model 75 155mm self-propelled howitzers. The new howitzer will have longer range and it will be able to fire various types of advanced ammunition.

Procurement is planned for FY 1982 first to replace the barrel of the Model 75 self-propelled howitzer with that of the M.75 Mod(ified) HSP. Use of chassis of Model 61 or Model 74 tanks with the new howitzer is also being considered in the event it is too difficult to modify the Model 75 chassis.

Modification of the tractor-drawn howitzer system includes adding an auxiliary self-propelled unit for greater mobility as well as replacement of the barrel.

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## MILITARY

### MANUFACTURER SELECTED FOR NEW GSDF SSM PROGRAM

Tokyo JPE AVIATION REPORT WEEKLY in English 2 Jan 80 pp 8-9

[Text]

JDA has selected MHI as the prime contractor of a new surface-to-ship missile development program for the GSDF. KHI and FHI will participate in the program as subcontractors. Development of a jet engine for the SSM will also be carried out with MHI as prime contractor.

A joint design team called SSMET (SSM engineering team) will be established among MHI, KHI, and FHI for development of the new SSM to start in FY 1982. The program will continue until FY 1985, for planned deployment of the first Japanese "cruise" missile in the late '80s for defense of Japanese coastal waters. The program is the second for a Japanese PGM (precision guided missile) to be developed by joint efforts of the industry, the first being the XASM-1 which is currently undergoing final tests for use with the ASDF F-1 support fighter.

The SSM is intended for use against ships in coastal waters. It will be launched from sites some 100 km inland. The missile will be powered by a jet engine. For terminal guidance of the SSM, an antiair/ship combat control center will also be developed.

The first prototype of the SSM will be fabricated with ¥900 million appropriated in the FY 1979 national budget and be delivered by the end of March 1981.

CSO: 4120

MILITARY

GSDf LIKELY TO SELECT CHINOOK

Tokyo JPE AVIATION REPORT WEEKLY in English 2 Jan 80 pp 8, 9

[Text]

To replace the V-107A in service with the First Heliborne Brigade, the GSDf is conducting operations research and it is thought that the Boeing Vertol CH-47D Chinook will meet GSDf requirements both in performance and in the deployment timetable. A Chinook incorporating special GSDf requirements may be selected for the heliborne brigade.

The GSDf will finalize plans for the new helicopter, coded CH-X, during FYs 1980-81 in order to purchase two units in FY 1983 for crew training. Fullscale procurement, planned to start in FY 1984, will call for up to 60 helicopters. At least 40 helicopters will be required to upgrade combat capability of the heliborne brigade and also to provide tactical support to ground forces.

Introduction of the CH-X is one of the major helicopter reequipment programs of the GSDf, the other being the AH-1S antitank helicopter. Fullscale procurement of the Bell attack helicopter is being planned to begin in or around FY 1981.

CSO: 4120



## MILITARY

### BRIEFS

COMMON PORTABLE SAM LIKELY--It now appears that all three services of the Self-Defense Forces will adopt a common shoulder-launched surface-to-air missile unless there is significant differences in respective operational requirements. The portable SAM for deployment with GSDF field units as well as for defense of ASDF and MSDF bases and important facilities has been under study for years and the most likely choice common between the services is the US Army Stinger. The Blowpipe SAM, a remote-controlled missile with head-on attack capability, is another favorite according to sources. It is expected that the ASDF and the GSDF will make decisions by April or May 1980 in order to finalize procurement plans before the FY 1981 budget request is submitted. [Text] [Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 p 9]

CSO: 4120

## ECONOMIC

### SJAC CHAIRMAN SEES BRIGHT FUTURE

Tokyo JPE AVIATION REPORT WEEKLY in English 2 Jan 80 pp 4-6

[Text]

Chairman Eiichi Ohara of SJAC (Society of Japanese Aerospace Companies) noted that 1979 was an important year for the Japanese aerospace industry and that there are a number of projects which make prospects for the '80s bright.

Ohara backed the interim report of the Aircraft and Machinery Industry Council entitled "Future Government Policies on Aircraft Industry" that was submitted to the Ministry of International Trade & Industry in August 1979. Ohara welcomed recommendations laid out in the report to the effect that the government should assist in the Y-X (Boeing 767) joint development and production program and also development programs for a next-generation civil air transport aircraft (Y-XX) and its engines on the premise that subsidies would be refunded when the programs enter their commercialization phase. In addition to these programs through international collaboration, Ohara pointed out that the report recommended that the government assist development of small airplanes and flyingboats as well as improvement of manufacturing and processing technologies. Ohara expected that the government would follow these guidelines for the '80s.

The Y-X (Boeing 767) joint development and production program with Boeing Commercial Airplane Co., which started in October 1978, is well under way, Ohara reported. Detail designing, construction of new facilities, and manufacture of jigs and tools are proceeding as scheduled and production of some parts has already begun. Ohara expected that shipment to the US will begin in the summer of 1980.

The first contracts for the ASDF F-15 fighter and the MSDF P-3C antisubmarine patrol aircraft were concluded in March 1979 with the Japanese Defense Agency. Preparations for local production are under way at manufacturers concerned. Production of local parts will begin in the spring through

summer of 1980 for delivery in 1981 for the F-15 and in 1982 for the P-3C, Ohara said. These two programs are helping keep assembly lines busy and also upgrade technical standards. But, Ohara stressed, the industry should take measures to overcome the world-wide shortage of aircraft materials, cost increases, and delivery delays.

Ohara was happy to report conclusion of an agreement between Rolls-Royce Limited and three Japanese manufacturers, MHI, KHI, and IHI, on December 12 for a joint aero engine development program. He was confident the eight-year development program for a fanjet engine of 9-ton thrust class for an advanced airliner will be successful. As to a Japanese engine program, Ohara hoped that the XF-3 small fanjet would be further developed by JDA's TR&DI for a future trainer.

In order to develop the Y-XX, a new program following the Y-X, Ohara reported that Fokker and Airbus Industrie have made proposals for joint programs. Ohara said that Japan should study the worldwide market potential for the Y-XX before making a decision.

In the field of small aircraft and helicopters, Ohara noted satisfactory progress in the MU-300 business jet and the BK-117 Japanese-German utility helicopter businesses. Ohara said promotion of general aviation and over-water air transport systems are being studied by SJAC's special ad hoc committees. Based on these studies, plans for development of small aircraft and flyingboats will be drafted, Ohara said. For the jet-powered STOL transport program of the Science & Technology Agency, Ohara reported that the industry is providing assistance. He hopes that new technology will be gained through TR&DI's study on CCV (control-configured vehicle) based on the T-2 supersonic trainer. He was anxious that the ASDF's new intermediate jet trainer project will be authorized.

Ohara emphasized that the industry should develop basic technology in the immediate future so that it can lead in development of revolutionary aircraft.

International collaboration is the key for growth, Ohara said. During 1979, an exchange of specialists groups was made with China. The 1979 Japan International Aerospace Show was held in November with participation of 122 companies and organizations from nine countries including, for the first time, Romania. Earlier, Japan participated in the 33rd Paris International Aerospace Show. Ohara said that the industry plans to participate in the Hanover (West Germany) and Farnborough (United Kingdom) air shows in 1980.

## ECONOMIC

### OPPOSITION PARTIES CRITICIZE BUDGET PROPOSALS

#### Opposition Criticism

OW221115 Tokyo KYODO in English 1102 GMT 22 Dec 79 OW

[Text] Tokyo, Dec 22 KYODO--Opposition parties criticized the Finance Ministry for curtailing social welfare expenditure and hiking government-controlled prices in the fiscal 1980 budget it proposed Saturday. The opposition parties called for revision of the draft budget which they described as siding with financial circles.

The Japan Socialist Party said the budget neglected social welfare and imposed more burden on the people under the pretext of rehabilitation of national financial difficulties. JSP branded the budget as one aimed at coping with national financial difficulties at the expense of the people.

Komeito said the budget would bring more burden on the people instead of reducing expenditure through administrative reform and cut in subsidies. Komeito also said the budget would inevitably corner the people who feel uneasy about energy and price hikes.

The Japan Communist Party said the budget was designed to place on the people the responsibility for nation's financial plight caused by the government's big business-oriented economic policy. JCP said it would make utmost efforts to have the government revise the draft budget for protection of the people's livelihood and rehabilitation of the national economy.

The Democratic Socialist Party claimed that the budget neglected the need to sustain business recovery and improve social welfare and said it pressed the people to live in deteriorated living standard. DSP also said it regretted that the government did not exert sufficient efforts to reduce the number of administrative offices as a major premise in drawing up the budget.

#### Defense Agency Efforts

OW221303 Tokyo KYODO in English 1242 GMT 22 Dec 79 OW

[Text] Tokyo, Dec 22 KYODO--Ranking Defense Agency officials Saturday decided to redouble their efforts to regain the nation's defense spendings next year to the present level of 0.9 per cent of Japan's gross national product (GNP).

The government's fiscal 1980 draft budget announced Saturday by the Finance Ministry had yen 2,219.9 [as received] billion for defense outlays, which meant 0.8955 percent of the GNP. The figure is yen 11.1 billion less than what the Defense Agency had earlier required to retain the 0.9 percent level of the GNP.

Among those major defense schemes which were eliminated from the draft budget for the fiscal year starting next April were 34 F-15 jet fighters for the Air Self-Defense Force, and 10 P-3C antisubmarine patrol aircraft for the Maritime Self-Defense Force.

The requested expenditure for four destroyers for the Maritime Self-Defense Force was also rejected by the Finance Ministry.

The defense expenditures for procurement of ten T-2 higher training aircraft and 24 74-type tanks for the Ground Self-Defense Force were not approved in the draft budget.

Regarding government expenditures to cover the stationing of U.S. military forces in Japan, the cost of construction of barracks was cut to yen 22.7 billion from yen 25.4 billion the Defense Agency had requested. The Defense Agency and defense facilities administration agency will now negotiate with the Finance Ministry in a bid to have the full amount of the requested fund restored in the revised draft budget.

#### LDP on Defense Spending

OW221217 Tokyo KYODO in English 1209 GMT 22 Dec 79 OW

[Text] Tokyo, Dec 22 KYODO--Ruling Liberal-Democratic Party (LDP) executive members urged the government Saturday to increase defense outlays in the next fiscal year draft budget to keep pace with the present level of 0.9 per cent of the nation's Gross National Product (GNP). The request was made at a joint meeting of the LDP Executive Committee and Policy Affairs Research Council at the party headquarters.

In the draft budget, the Finance Ministry appropriated defense spendings totaling yen 1,219 billion equivalent to 0.8955 per cent of the GNP or 0.04 per cent less than that for the current fiscal year. In response to the request, Shinatiro Abe, chairman of the LDP Policy Affairs Research Council, said that he would do his utmost to persuade Finance Minister Noboru Takeshita and Defense Agency Chief Enji Kubota to help realize their request.

CS0: 4120



## ECONOMIC

### WESTERN INDUSTRIAL PARTNERS SOUGHT

Paris L'USINE NOUVELLE in French 22 Nov 79 pp 88-89

[Article by Jacques de Rugy]

[Text] To make up for their lack of experience (especially in civil engineering) and solve the problems involved in standards, languages, and especially costs, the Japanese are hoping to become partners with industrialists who are already solidly established. The message is beginning to be heard.

With a view to increasing its sales of large industrial plants in the developing countries, Japan is urging its firms to join with Western partners. That is an opening still largely unexplored by our industrialists, too few of whom have so far shown any interest in that way of exporting equipment goods: the sale of supplies and services to Japanese engineering firms for carrying out industrial projects in third countries.

The potential market looks very large: in fiscal 1978 (April 1978 to March 1979), Japanese exports of turnkey plants totaled \$8.7 billion, or 9 percent of Japan's total sales abroad. MITI (Ministry of International Trade and Industry) predicts that in the coming fiscal year, that figure will rise by 20 percent.

In these conditions, it is very probable that the sale of large industrial plants will become the main Japanese export, surpassing the three traditional heavyweights: steel, electrical and electronic equipment, and automobiles. But it is a surprising prediction at first glance, since 1978 was marked by a very definite slowdown in sales of turnkey plants abroad. Between 1972 and 1977 such sales increased sixfold. The year 1977 saw sales increase by 52.7 percent over 1976, but the increase fell to 1.4 percent in 1978.

In order to establish a new export policy for large industrial plants, MITI last June brought together representatives of large firms such as Mitsubishi, Mitsui, Nippon Steel, Toshiba, Toyo Engineering, Ishikawajima-Harima Heavy Industries, Chiyoda Chemicals, and others, as well as delegates from the



Japanese Export-Import Bank and the OECF (Overseas Economic Cooperation Fund). The most important conclusion reached at that meeting was to recommend an increase in purchases of supplies and services abroad and above all to promote the establishment of consortiums with European or American firms. The basic purpose was to benefit from the sometimes lower cost levels abroad and to reduce competition for contracts and thus avoid detrimental drops in prices.

#### Direct Presence of French Firms Essential

Until now most of the contracts between foreign suppliers and Japanese turnkey firms have involved simply the sale of supplies and services. When asked why they call on European suppliers--French suppliers in particular--the Japanese turnkey firms like to bring up the matter of standards. For example, one of the biggest Japanese engineering firms, the JGC Corporation (formerly the Japan Gasoline Corporation), turned to the Biro Sons firm to supply firefighting equipment for the LNG plant in Hassi R'Mel, Algeria, which had to meet French standards.

For Kawasaki Heavy Industries, which exports cement plants to North Africa and the Middle East, French equipment is desirable when the customer is accustomed to using French equipment. The user appreciates the fact that the new equipment is interchangeable with existing facilities, particularly in the case of electrical equipment and control systems. Kawasaki also emphasizes that geographic distance prevents Japanese firms from providing service as efficiently as French firms can. They therefore prefer to buy in Europe the equipment which is vital for keeping the worksite in operation but which frequently breaks down (rolling stock, excavators, and so on).

Standards, equipment interchangeability, efficiency of service, and, of course, language and communication problems, which are likely to involve substantial additional cost, are all factors working in favor of the French manufacturers, especially in the markets of French-speaking Africa--and the Maghreb.

The advantages are different and the field of action much larger for the French firm willing to work in partnership rather than as a subcontractor. It also goes without saying that the sales volumes at stake are scarcely comparable. Japanese turnkey firms are unanimous in saying that the key element in such partnerships is reduced costs. The extreme competition which comes into play when a call for tenders goes out and which often brings Japanese firms into competition with each other is now forcing them to go beyond their own frontiers in search of the most economical solutions.

Another important factor is that the partner firm is established locally and has experience in the zone concerned. It must not be forgotten that the Japanese are newcomers on those markets, which were once the preserve of Europeans and Americans. Following what has become a conventional strategy, they are therefore seeking to compensate for their lack of experience

by joining up with a solidly established partner. This is especially true in the field of civil engineering.

There was a time when Kawasaki Heavy Industries, although it offered the least expensive equipment, was unable to be the lowest bidder overall because of civil engineering: Japanese architects were used to building with steel because of earthquakes and thus could not come up with competitive plans using concrete. In a logical reaction, Kawasaki has now entrusted to Europeans the building of a cement plant in Iraq (capacity: 4 million tons) for which it obtained a contract last May. And it intends to do the same in the case of a 1-million-ton unit in Libya.

For all those reasons--and the facts confirm it every day--joint French-Japanese bids are not limited to French-speaking Africa but also cover zones as diverse as the Middle East (the Arabian Peninsula and Iraq), Latin America (Brazil), Africa (Nigeria), or Asia (Korea, Indonesia, and Ceylon).

Obviously, the sums at stake in consortium deals are enormous. Japanese turnkey firms admit that purchases abroad may amount to 30 percent or even more of a total contract. In early September, for example, there was a 60-million-franc contract between COMSIP [expansion unknown] and Kawasaki Heavy Industries for supplying electrical equipment for a 1-million-ton cement plant in Tunisia, and in that deal Merlin Gerin received a 26-million-franc order for automatic control instruments.

Experience shows that the overtures for this type of business are made in Japan itself. Interlocutors are numerous both in the Japanese turnkey firms themselves and sometimes in the big trading companies with which they have privileged relations. In practice, information is to be found at four levels in a Japanese turnkey firm: the team in charge of the project, the project-study division, the supply division, and management. The local European office plays only a logistical role, occupying itself with inspecting the equipment being shipped and welcoming traveling visitors from the company. It is true that it sometimes recommends certain suppliers on the advice of a trading company. But the decisionmakers are always in Japan.

On the other hand, it is essential that French firms be directly present in Japan if they are to have access to information. Charles Raith, chairman of a company specializing in the negotiation of contracts between Japanese turnkey firms and French suppliers, explains why: "It is necessary to make constant efforts at all levels, to be permanently available, to be able to propose specific solutions to their problems, and above all to know how to establish personal relations, and that means having either one's own office or one's own man on the spot."

His company--Offshore Procurement Company, Ltd--successfully fills that last role very exactly. Proof of this is to be seen in the contracts concluded between Vallourec and several Japanese project-study firms for pipe and joint assemblies in Saudi Arabia and Nigeria.

The Japanese side also places great emphasis on personal relations and mutual trust. Mr Aso, a manager at Ishikawajima-Harima Heavy Industries (IHI), recalls that the history of his firm's relations with Alsthom-Atlantic--its main European partner--goes back to 1953, when a licensing agreement was signed for the manufacture of French diesel engines in Japan. Aso adds that the establishment of a climate of trust as a condition for jointly carrying out big industrial projects is complicated by the absence of French suppliers. He repeats, "They should have an office in Tokyo; our company, which has a turnover comparable to that of Alsthom-Atlantic, has 28 offices abroad. But Alsthom-Atlantic has only two or three!"

#### Not To Be Satisfied With Crumbs

Sydney Emery, the Empain-Schneider group's representative in Japan and Korea, goes further: "If a French company is not represented in Japan in the form, for example, of a technical office headed by a resident engineer, it will get only the crumbs or local subcontracting jobs."

Masayuki Segawa (Kawasaki Heavy Industries) admits that it is easier for him to contact our competitors--particularly the Germans--because they have their own offices in Tokyo. The message is beginning to be heard. This year two French companies opened offices in Japan to explore the possibilities: they are SOGEXPORT [expansion unknown], a subsidiary trading company of the General Company, and the Krebs project-study firm.

It is essential that other French companies show their determination to work with the Japanese. Interpreted in the Japanese context, MITI's recommendation to form joint consortiums means that the Japanese turnkey firms will be ready to listen to them.

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## ECONOMIC

### CIVIL AIRCRAFT TRADE AGREEMENT FORMALLY SIGNED

Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 pp 5,6

[Text]

A new international trade agreement which abolishes trade tariffs and liberalizes civil aircraft trade was signed December 14 in Geneva, along with other agreements concluded through the Tokyo Round trade talks earlier this year. The agreement becomes effective January 1. Signatory nations include Japan, the US, Canada, Sweden, and EC members.

The civil aircraft trade agreement aims at providing a maximum amount of freedom in international civil aircraft trade and upgrading technical standards of the civil aircraft industry. Government aid to the industry "per se" is not considered hampering civil aircraft trade. Essentially, the agreement provides a framework for promotion of the civil aircraft industry of the world.

Items covered by the agreement include A) civil aircraft, B) aero engines, engine parts and components for commercial use, C) other parts and components for such aircraft, and D) ground training systems, parts and components for commercial aviation.

The agreement defines the scope of the parts, components, and partially assembled parts as those to be installed in civil aircraft and engines at the time of manufacture, repair, and modification. Semifinished items are not covered by the agreement, provided that are not comparable to finished parts, components, partially assembled parts, or equipment. Material is also exempted provided that it is not cut or processed to configurations according to specifications for use with civil aircraft. Raw material and expendables are not covered by the agreement.

Tariffs and other duties on the items covered by the agreement and also on repair of civil aircraft will be abolished by January 1.

The GATT standard code on technical obstacles to international trade will be applied to the agreement. Accordingly, the prevailing domestic type certification system and national standards and rules will be amended so as not to contain unnecessary obstacles to international trade.

The purchaser of civil aircraft will have free choice based on economic and technical conditions. Governments will not impose any request or pressure on the prospective purchaser.

The signatory nations will not impose any limitations on GATT regulations on export and import of civil aircraft.

The GATT agreement on government subsidies or off-set contracts will be applied to civil aircraft trade so government aid to the aircraft industry will not unfavorably influence any trader. Special allowances will be given, however, to specific conditions prevailing in the civil aircraft industry where extensive government aid is used.

Local autonomous bodies will be encouraged not to take action detrimental to the agreement.

In order to supervise execution of the agreement and also to settle disputes, a committee will be organized by the signatory nations. Any member may submit a case to the committee when it considers that its benefits from civil aircraft trade are hampered by a fellow member. The committee will take appropriate measures as soon as possible to settle such cases.

CSO: 4120



## ECONOMIC

### MITI ANNOUNCES JAPAN'S DECEMBER EXPORTS WERE 1979'S HIGHEST

OW160843 Tokyo KYODO in English 0807 GMT 16 Jan 80 OW

[Text] Tokyo Jan 17 KYODO--Japan's certified exports reached the year's high of yen 2,430 billion last month, boosted by strong foreign demand for autos, steel and chemicals, the Minister of International Trade and Industry said Thursday.

The figure was up 25.9 per cent over a year ago.

Despite the yen's 22.6 per cent depreciation against the dollar over the past year, certified exports, a leading indicator of export trends, exceeded the dollar 10 billion level for the first time of the year. In dollar terms, they came to dollar 10,127 million, up 12.8 per cent.

The December figure brought total exports in 1979 to yen 23,019 billion and dollar 107,236 million, both up 7.8 per cent over the previous year.

The steady uptrend in sales of automobiles, steel, chemicals and other major export items, notably to the United States, Southeast and West Asia plus Western Europe continued into December, more than offsetting falls in exports of ships and plants.

Areawise, exports bound for the United States rose to 15.7 per cent to dollar 2,742 million. Those for Western Europe increased 11.9 per cent to dollar 1,553 million.

Exports to the communist bloc, on the other hand, decreased 12 per cent to dollar 595 million.

Despite an upturn continuing since last fall, exports to Iran declined 63.9 per cent due largely to the revolution earlier in the year.

CSO: 4120



## ECONOMIC

### JETRO EXPECTS OVERSEAS INVESTMENTS TO RISE IN 1980's

OW170853 Tokyo KYODO in English 0800 GMT 17 Jan 80 OW

[Text] Tokyo Jan 17 KYODO--Japanese overseas investment is expected to increase in the 1980s, especially in development of alternative sources of energy to replace oil like coal, natural gas, uranium and coal liquefaction, the Japan External Trade Organization (JETRO) said Thursday.

In its 1980 white paper on overseas investment, the semi-official trade promoting agency pointed out the necessity of adequate preliminary surveys and selection of partners in making the overseas investment.

The paper, the eighth in a series, noted that U.S. investment overseas was overwhelming in the 1960s while Japan and European countries increased their investments in the 1970s, accelerating capital inflow from industrialized nations.

The 1980s will see a multilateral and mutual capital inflow with an international structural adjustment through capital exchange between developing and industrialized nations, JETRO said.

It said Japanese investment overseas totaled dollar 4.598 billion in fiscal 1978, up a sharp 63.9 per cent from the previous year and surpassing the previous record high of dollar 3.494 billion in fiscal 1973.

The figure totaled dollar 2.446 million in the April-October period of fiscal 1979, 70 2 per cent over the like period a year earlier, paper said.

Investment was spectacular in natural resources development, processing and major industrial projects like petrochemical complex programs in Iran and Singapore from the viewpoint of national interest such as security stable supply of resources and energy, it said.

Meanwhile, Jetro also noted that while investment opportunities increased, the pullout of Japanese firms from foreign countries has been at high level with the number of such cases reaching 480 in fiscal 1977 and 331 in fiscal 1978.

This was due to inadequate preliminary surveys and selection of partners, JETRO said, warning that it is necessary for Japanese firms to be prudent and consider corporate risks.

ECONOMIC

FIRST F-15 ENGINE DELIVERED TO IHI

Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 pp 6,7

[Text]

The first Pratt & Whitney F100-P-100 engine for the ASDF F-15 fighter was delivered to IHI on December 4, marking an important step forward to local production of the advanced engine. The first unit was imported by IHI for calibration tests.

IHI has an order from JDA for production of 32 F-15 engines. A further eight units will be imported in knocked-down form for assembly by IHI.

Local manufacture of engine parts and components will begin in March 1980 and engine production will start in 1981 at a rate of two units monthly. Twenty units will be delivered during FY 1981 and ten units the following year.

CSO: 4120

## ECONOMIC

### MITSUBISHI BUSINESS PLANES, SALES STATUS

Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 p 6

[Text]

As of the end of November, sales of the MU-2 twin-turboprop business planes totaled 620 and options for the MU-300 twin-jet business plane totaled 82, MHI announced last week.

MU-2s have been sold in 24 nations including Nigeria that joined MU-2 operators in November. 457 aircraft have been sold to the US and 114 to other nations. Forty-nine have been sold to domestic operators including the Self-Defense Forces. While a break-even production rate is set at four aircraft per month, orders for the MU-2 have been averaging seven aircraft monthly since the fall of 1978.

Prospects of the MU-300, Japan's first business jet, are also bright. Since the start of marketing in June this year, orders had been received for 54 aircraft by the end of August. At the end of November, orders totaled 82, calling for a satisfactory monthly production rate comparable to that of the MU-2. Delivery of the MU-300 will begin in 1981 through US-based Mitsubishi Aircraft International (MAI).

CSO: 4120

## ECONOMIC

### BRIEFS

**FERTILIZER PROJECTS NEGOTIATED**--Tokyo Dec 26 KYODO--A chemical fertilizer plant built through the cooperation of Mitsui and Company at Cherkassy in Ukraine started operation on Monday. It was the 18th ammonia plant built in the Soviet Union with Mitsui's cooperation, the ECOTASS news said in a report received here Wednesday. Mitsui and Co. is building a total of 32 chemical plants in the Soviet Union under agreements with the Soviet Ministry of Chemical Engineering and the Ministry of Chemical Industry, Masaaki Ninomiya, head of Mitsui's Moscow office [said]. He said that bilateral negotiations are under way in Moscow at the moment on delivery of equipment for new fertilizer plants and on increasing the production capacity of the plants. A contract on new production equipment is expected to be signed between Mitsui and the Soviet authorities in March or April. [Text] [OW260548 Tokyo KYODO in English 0410 GMT 26 Dec 79 OW]

**LOAN TO SAUDI ARABIA**--Tokyo Dec 12--The government decided Wednesday to extend a loan of yen 2.7 billion (dollar 11.2 million) to Saudi Arabia to help finance a methanol (methyl alcohol) plant project in that country. The fund will be used to set up a Japanese-Saudi joint company which will run the projected plant at Al Jubayl on the Persian Gulf. The joint company will be capitalized at dollar 74 million (about yen 18 billion). A formal agreement on the project was signed between a group of three Japanese companies--Mitsubishi Gas Chemical, C. Itoh and Co. and Mitsubishi Heavy Industries--and the state-run Saudi Arabia Basic Industry Corporation late last month. Under the agreement, the joint firm will be established by the end of this year and construction of the 600,000-ton-a-year methanol plant will begin early next year with completion scheduled for 1982. Five-sixths of methanol produced at the plant will be shipped to Japan for the first 5 years. The project will be the first case of Japanese cooperation in Saudi Arabia's industrial development. [Text] [OW132200 Tokyo KYODO in English 0959 GMT 12 Dec 79 OW]

**SPANISH INDUSTRY OFFICIAL**--Tokyo Dec 12--A high official of Spain's Ministry of Industry and Energy arrived in Tokyo Wednesday for a 10-day visit for a firsthand look at Japan's industrial, energy and small and medium-sized industry policies. Enrique F. Florente Gomez, deputy director general of the ministry's international industrial relations bureau, came at the invitation of the semiofficial Japan External Trade Organization (JETRO) for what is described as a familiarization tour. While in Japan until

December 21, the 35-year-old official will visit the Ministry of International Trade and Industry, small and medium enterprises agency, Japan Chamber of Commerce and Industry, Bank of Tokyo, Fujitsu, Ltd., Honda Motor Co., Nissan Motor Co., Mitsui and Co. and Mitsubishi Corp. The Spanish ministry is in charge of foreign investment in Spain where a Japanese investment mission visited last February in view of its possible entry into the European Economic Community, EEC. [OW132200 Tokyo KYODO in English 0913 GMT 12 Dec 79 OW]

COOPERATION WITH PRC--Osaka, 14 Dec--Matsushita Electric Industrial Co. announced Friday the conclusion of contracts to build a color television receiver assembly plant in Beijing and a printed circuit plate plant in Shanghai. The contracts were signed in Beijing Thursday with the China National Technical Import Corporation. Matsushita refused to disclose the value of the deal but said it would be settled in dollars on a cash basis. Informed sources said that the value of the plants are estimated at about 1 billion yen (\$4.2 million) each. The TV assembly plant, capable of assembling 150,000 14-inch sets a year, will be built within the premises of the Beijing television set works. It will start operation in mid-1981, Matsushita said. The printed circuit plate plant with a daily producing capacity of 5 million square meters will be constructed in the No 20 Radio Works in Shanghai. It will be put into operation in the spring of 1982. [Text] [Tokyo KYODO in English 0800 GMT 14 Dec 79 OW]

STEEL PRODUCTION--Tokyo, 14 Dec--Japan's crude steel output in fiscal 1980, starting next April, will decrease by 2.7 percent from the current fiscal year to about 109 million tons, the Japan Iron and Steel Federation forecast Friday. The federation said crude steel production in the current fiscal year would increase to 112 million tons from fiscal 1978's 105.03 million tons, reflecting such factors as promotion of public works and strong demand in the automobile and household electric appliance industries. It will be the first time since fiscal 1974 that Japan's annual crude production will top the 110 million ton mark, it said. But in fiscal 1980, the government is expected to curb public works spending and private plant and equipment investments will also decrease, the federation said. Domestic steel demand is thus estimated to decrease by about 3 million tons next fiscal year, resulting in a decreased crude steel production, it said. It added that exports would level off in fiscal 1980 from the current fiscal year. [Text] [Tokyo KYODO in English 1104 GMT 14 Dec 79 OW]

1980 GROWTH PROJECTIONS--Tokyo, 18 Dec--Japan's real economic growth rate in fiscal 1980 (April 1980-March 1981) will stand at 5 percent, a private economic research institute predicted Tuesday. The National Economy Research Institute said the uptrend of wholesale prices will begin to slow down in the first quarter of calendar 1980 while the yen's value against the U.S. dollar will improve early next fiscal year. Business activity is expected to become brisk again in the latter half of next fiscal year after a slump in the first half, the institute said. Fiscal 1980 economic growth will be 5 percent in real terms, it said. The institute came up with the rather bullish growth estimate for fiscal 1980 on the premise that crude oil import prices will average dollars 26 a barrel in the fiscal



year and that the fiscal 1980 government budget will rise 9.8 percent over that for the current fiscal year. It also assumed that the Bank of Japan will ease credit in the second quarter of fiscal 1980 (July-September). The 5 percent growth projected by the institute is higher than estimates by other private research institutes, which cluster in the 2-3 percent range. [Tokyo KYODO in English 0335 GMT 18 Dec 79 OW]

**AUTUMN RICE HARVEST**--Tokyo Dec 21--A total of 11,958,000 tons of rice were harvested in the nation this autumn, or 258,000 tons more than the target future of 11,700,000 tons, Agriculture, Forestry and Fisheries Minister Kabun Muto reported to the cabinet meeting Friday. He said the rice harvest topped the target figure because output of paddy rice, which accounts for most of the rice produced in the country, totaled 482 kilograms per [word indistinct] second only to the record high of 490 kilograms recorded last year. As a result, the government stockpile of surplus rice is expected to increase further in the future. Government officials said the surplus rice, which totaled 6,500,000 tons as of the end of October, is believed certain to increase to some 7,100,000 tons next October unless consumption increases and unless such steps as exporting the staple item to other countries are taken. Of the rice harvested this autumn, paddy rice totaled 11,898,000 tons and dry land rice, 60,000 tons. The total harvest was 631,000 tons less than in 1978. This was due to strengthened measures taken by the government to reduce the acreage of rice planted and also to the fact that the per 10 are harvest of paddy rice was less than last year's. [Text] [OW211409 Tokyo KYODO in English 0033 GMT 21 Dec 79 OW]

**STEEL TO COST MORE**--Osaka Dec 20--Rising crude prices may force Sumitomo Metal Industries, Ltd. to increase the price of its steel by yen 10,000 per ton, its president said Thursday. Disclosing for the first time its anticipated price hike, Yoshifumi Kumagai told a news conference that the firm could only absorb 20 percent of the increased cost of electric power, iron ore and coal in the latter half of fiscal 1979 and fiscal 1980. The price markup will approach, but not pass 10 percent, he said. Earlier, Eishiro Saito, president of Nippon Steel Corp., expressed hope to keep the price of steel from rising above 8 percent in the next fiscal year. [Text] [Tokyo KYODO in English 0344 GMT 20 Dec 79 OW]

**NEW AIRCRAFT TYPE STUDIES**--The Society of Japanese Aerospace Companies (SJAC) in 1980 plans to carry out studies related to development of revolutionary aircraft of the future. The studies will cover areas of technical innovation required in the aircraft industry for upgrading technical standards to top international levels so that the industry will be able to develop revolutionary aircraft. National laboratories and aerospace-related companies will collaborate with SJAC. Another major program of SJAC in 1980 is related to the Y-XX project. Studies will be made on the world's market potential, development activities in foreign countries, as well as basic designing and specifications. [Text] [Tokyo JPE AVIATION REPORT-WEEKLY in English 26 Dec 79 p 7]



GRANT TO PHILIPPINES--Tokyo, 28 Dec--Japan will extend an aid grant totaling 5 billion yen to the Philippines for cultural cooperation, the Foreign Ministry announced Friday. Notes on the assistance were exchanged Friday in Manila by Makoto Watanabe, charge d'affaires, and Philippine Foreign Minister Carlos P. Romulo. With the Japanese aid, the Philippine Government will purchase machinery and equipment for nationwide examinations aimed at equal education opportunities. [Text] [OW281058 Tokyo KYODO in English 0346 GMT 28 Dec 79 OW]

FOREIGN ASSISTANCE--Tokyo, 28 Dec--Japan's official assistance to developing countries is estimated to rise to 840 billion yen in the next fiscal year, 0.33 percent of gross national product (GNP), the Foreign Ministry said Friday. The interim figure--the equivalent of \$3.5 billion at current exchange rates--is up from 721.7 billion yen in fiscal 1979, ending next March. The fiscal 1979 total meant the transfer of 0.31 percent of GNP to developing countries. Of the total for fiscal 1980, grant elements are estimated to climb past the 50-percent mark for the first time ever, compared with 47.2 percent in the current fiscal year. [Text] [OW281058 Tokyo KYODO in English 0809 GMT 28 Dec 79 OW]

GRANT TO MADAGASCAR--Tokyo, 27 Dec--Japan will extend a grant aid totaling 300 million yen to Madagascar to contribute to the implementation of the agricultural produce development plan of that country, the Foreign Ministry announced Thursday. Notes on the aid were exchanged Wednesday in Tananarive by Masashi Hasegawa, Japanese charge d'affaires to Madagascar, and Madagascar Foreign Minister Remi Christian Richard. The Madagascar Government will use the Japanese aid for purchasing agricultural machinery. [Text] [OW281058 Tokyo KYODO in English 0122 GMT 27 Dec 79 OW]

AID TO MEXICO--Tokyo, 28 Dec--Japan will provide Mexico with grant aid totaling 10 million yen for the purchase of Japanese language training facilities at the Mexican State University, the Foreign Ministry announced Friday. Ambassador Nobuo Matsunaga and Mexican Foreign Minister Jorge Castaneda y Alvarez de la Rosa exchanged notes on the aid Thursday in Mexico City. The foreign language center of the Mexican State University offers courses in 11 foreign languages, including Japanese. One hundred students are studying Japanese in six classes, officials said. [Text] [OW281058 Tokyo KYODO in English 0403 GMT 28 Dec 79 OW]

LOAN TO PAKISTAN--Tokyo, 26 Dec--Japan will extend an unsecured yen loan totaling 2.4 billion yen to Pakistan for the expansion of an electric power station, the Foreign Ministry announced Wednesday. Notes on the loan were exchanged Wednesday in Islamabad by Ambassador Hiroshi Nemoto and Aftab Ahmad Khan, secretary to the government of Pakistan, Ministry of Finance, planning and provisional coordination. The loan will carry an interest rate of 2.75 per annum, and be payable in 30 years, including a 10-year grace period. The loan, 17th in a series, brings the total

yen loans Japan has extended to Pakistan since 1961 to 199 billion yen. In addition, Japan has carried out a debt relief of about 46.1 billion yen, officials said. [Text] [OW281058 Tokyo KYODO in English 1026 GMT 26 Dec 79 OW]

INCREASE TAX REVENUES--Tokyo Jan 11 KYODO--The government adopted a tax reform plan for fiscal 1980 Friday calling for an increase in tax revenues of yen 351 billion in fiscal 1980 and yen 392 billion in following years. It will submit bills for the tax reform to the Diet when it resumes its current regular session January 25. To achieve the revenue increase, the proposal calls for scrapping or consolidating business tax credits for 14 items. The tax revenue increase envisaged in the fiscal 1980 reform plan compares with yen 434 billion projected for the current fiscal year ending March 31. The plan, virtually the same as tax reforms worked out by the Finance Ministry and the ruling Liberal-Democratic Party before the government's fiscal 1980 budget proposal was unveiled December 29, calls for no corporate tax increases, however. It envisages no increase in stamp duties, either. The tax reform plan, meanwhile, calls for a raise in the electric power development tax to yen 300 per 1,000 kilowatts from the current yen 85. This would bring a revenue increase of yen 82.7 billion in 1980 and yen 99.3 billion in and after 1981 in this sector. The government decided to seek an electricity tax increase mainly to raise funds for development of alternative energy sources in the face of the darkening oil supply outlook. The plan also calls for such revenue increase measures as lowering the retirement allowance reserve allowed for corporate firms and revising the level of income tax deductions. [Text] [OW110245 Tokyo KYODO in English 0233 GMT 11 Jan 80 OW]

ECONOMIC SLOWDOWN PREDICTED--Osaka Jan 11 KYODO--The skyrocketing price of crude oil and lowered government spending will cause a substantial slowdown in the national economy in fiscal 1980, a private bank says. In its economic forecast for the year starting April 1, Daiwa Bank of Osaka predicts Japan's real economic growth rate in fiscal 1980 will come to only 3.6 per cent rather than the government's official estimate of 4.8 per cent. The government estimates for the current fiscal year, projected almost a year ago, was 6.3 per cent. The bank report anticipates the crude price will stand at some dollars 30 a barrel during the year, causing a continuation of a double-digit inflation on the wholesale price level. The report also says the anticipated hikes in public utility charges will push consumer price inflation to an annual rate of 8.4 per cent from a anticipated 4.8 per cent for the current fiscal year. The government's slow spending coupled with inflation will result in slow domestic demand, it said. Those factors would force business corporations to exert efforts to promote exports, but they will not expand as fast as expected, it said. [Text] [OW110527 Tokyo KYODO in English 0406 GMT 11 Jan 80 OW]

CSO: 4120

## SCIENCE AND TECHNOLOGY

### MHD GENERATION USING COAL SETS WORLD RECORD

Tokyo KAGAKU SHIMBUN in Japanese 16 Nov 79 p 4

[Text] "World record in closed-cycle MHD power generation was established," that is, in late October [this year], the Susumu Shioda research group of the integrated science and engineering research laboratory at the post-graduate school of the Tokyo Institute of Technology where research in MHD power generation is in progress, achieved such results as an electric conductivity of more than 100 mhos per meter, Hall's coefficient of more than 8 and an output density of more than 48 megawatts per cubic meter, that exceeded hitherto established performances. Because the occurrence of ionization instability had rendered the subject of closed-cycle MHD power generation with a rare gas as the operating gas to be a difficult one, much is expected from the results obtained in research hereafter. The research group obtained a 2 kilowatt output from MHD power generation with pulverized coal as the combustion gas. Japan is second to the U.S. in being successful with coal-fired MHD power generation.

MHD power generation is a method whereby a high temperature gas with electric conductivity is transmitted at high speed through a magnetic field within a channel and the electromotive force resulting from the electromagnetic induction is utilized to produce electric power, but the Shioda group utilizes argon as the operating gas.

First, helium gas is released into one side of the impulse wave channel which is divided by an aluminum sheath; then a mixture of argon and potassium at a ratio of  $10^5$  to 1 is released. When the pressure in the helium compartment is increased to 10 atmospheres, causing the sheath to break, the argon/potassium mixture is pressured to a high temperature of  $3,500^\circ \text{K}$  and a high pressure of 3 atmospheres. Then the ionization of potassium produces plasma from which electricity streams into the magnetic field of the conduction magnet creating a Hall electromotive force (based on the Hall effect) which by load is then converted to electric power. Heretofore the trouble lay in the occurrence of ionization instability caused by non-equilibrium ionization within the magnetic field, but by having it contained in the generator, an output density of more than 48 megawatts per cubic meter, a Hall coefficient of more than 8, an electric conductivity of 100 mhos per meter and an output of 28 kilowatts, all in a small magnetic field of 1.4 teslas, were achieved.

In coal-fired MHD power generation, helium is filled into one side of the impulse wave channel which is divided by a sheath; then oxygen, pulverized coal and a very small quantity of potassium carbonate powder are added. Increasing the pressure in the helium section causes the sheath to break and the pressure added on to the oxygen and pulverized coal causes combustion, creating a state of high temperature and high pressure, upon which the potassium from potassium carbonate becomes ionized as plasma thereby creating a stream of electric current which is generated by a magnet installed within the impulse wave channel. In February of this year, an output of 40 watts [sic] was achieved.

Interview with Prof Susumu Shioda: "The most difficult phase in closed-cycle MHD power generation was the occurrence of non-equilibrium ionization within the magnetic field. In argon gas, the temperature of the electrons rose to accelerate ionization. With the increase in the electron density, the electric conductivity of the plasma improves but at the same time ionization instability occurs, causing the plasma, time and spacewise, to be sluggish forcing the Hall coefficient to drop 1 or 2. A drop in the coefficient causes a decrease in the power output. To correct this, the seed ratio was reduced so as to obtain total ionization of potassium and the occurrence of ionization instability was prevented. A future topic is the achievement of pressuring argon at 2,000° K and making research on thermal exchange equipment imperative."

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## SCIENCE AND TECHNOLOGY

### HIGH PROCESSING TECHNOLOGY URGED FOR AEROSPACE INDUSTRY

Tokyo JPE AVIATION REPORT WEEKLY in English 2 Jan 80 pp 3-4

[Text]

An advisory body to the Director-General of the Machinery and Information Industries Bureau, Ministry of International Trade and Industry (MITI), has urged upgrading of processing technology for development of Japan's aerospace industry, pointing out realities and problems regarding the nation's current processing techniques and machine tools for the industry.

The Research Committee on Processing Technology for Advanced Technology Industries in its interim report of Dec. 19 said the Japanese aerospace industry should first focus on processing of airframes and engines. Its comprehensive recommendation will be finalized by next spring.

In aircraft manufacture, it specifically recommended shortening aircraft development periods, reducing component weights, provide high quality and boost productivity.

According to the report, numerical control (NC) machine tools can reduce the time needed for development. Such tools will be used for numerical control processing of wind-tunnel testing models, automatic drawing of designs, processing of metallurgical aircraft assembling tools, and processing of aircraft components.

As for reducing weights, importance is put on complex and precise processing technology. Rivet-linking structures make no contribution to reducing aircraft's weight. Therefore, large, thin components will become important. In order to process such components, including inner surfaces of outer sheets of wings and fuselages, and large frames,



new relief processing techniques must be developed. Technology for processing complex materials will be indispensable for aircraft manufacture in the future, the report points out.

Ensuring high quality of components will become increasingly important. Some components will be 10 meters long and some frames will measure several meters in diameter. Precision of NC machine tools must be stepped up to ensure high quality, the report added.

Boosting productivity involves various difficulties as large light-weight structures have curved surfaces in thin parts. Titanium alloys have increasingly been used along with aluminum for aircraft materials. This forces machine tools to process hard components with high precision. Although NC machine tools can play a great role in boosting productivity, the role of large five-axis control machining centers will become very important, the report said.

CSO: 4120



## SCIENCE AND TECHNOLOGY

### SPACE EXPLORATION BODIES TO BE UNIFIED IN FY '88

Tokyo JPE AVIATION REPORT WEEKLY in English 2 Jan 80 pp 9-10

[Text]

The Space Activities Commission confirmed unification of space exploration bodies in FY 1988 or after completion of the M rocket development project by the Institute of Space and Aeronautical Science, University of Tokyo, when it authorized the institute's M-3S rocket modification plans Dec. 19.

After the M rocket modification, only the National Space Development Agency (NASDA) will develop satellite-boosting rockets while the university will conduct research into rockets for contribution to NASDA's rocket development. NASDA will also undertake launching of M rockets developed by the university.

The modification plans envisage development of Modified M-3S I with a diameter of the nose fairing lengthened to 1.6 meters from the current 1.4 meters and Modified M-3S IIs with diameters of both the fairing and second motor extended to 1.6 meters. Although the diameter of the first stage motors will remain at 1.4 meters in both modifications, thrust will be increased. The power for lifting a satellite into a circular orbit 250 kilometers high will be 580 kilograms for the Modified M-3S I and 720 kilograms for the Modified M-3S II, compared with 290 kilograms for the M-3S before modification. Three rockets for each of the two models will be manufactured.

In the Modified M-3S I development, a test rocket will be completed in FY 1983, the first practical rocket in FY 1984 and a second practical model in FY 1985. This will be followed by the Modified M-3S II program ending in FY 1988.

The first modification is designed to boost an artificial satellite to explore Venus in FY 1984. The two modified

rockets will lift different satellites--small satellites for exploration of the moon and other planets and large satellites for exospheric observation.

The existing M rocket is not efficient enough to boost satellites, although various modifications have been made. Its payload ratio, a share of a satellite in a rocket's whole weight, stands at about 0.6, compared with the international level of more than 1.0. The institute intends to raise the ratio to 1.2 in the modification program.

The university's institute is to develop into a central space research institute which will automatically take over the modification project.

The Education Ministry has asked the Finance Ministry for a follow-on disbursement of about ¥3,100 million of improvement of rocket launching facilities for the modified types. Of the amount, ¥626 million will be appropriated in FY 1980. The university will design and manufacture the improved facilities in FY 1980 and install them in FY 1981 when no M rocket firing is planned.

CSO: 4120

## SCIENCE AND TECHNOLOGY

### BRIEFS

HEPATITIS CURE PREDICTED--Fukuoka Dec 20--A medical expert at the Cancer Research Center in Tokyo reports he has succeeded in introducing into bacteria the gene responsible for producing "interferon" a protein which can cure chronic hepatitis and influenza. Dr Tadatsugu Taniguchi, a hepatitis expert at the institute, made known his innovation at the final-day session Thursday of the 20th convention of the Japan Molecular Biology Association at Kyuden Hall. In his report read at the meeting, Taniguchi said a large quantity of the specific gene for interferon was produced in colon bacillus. Interferon is believed to hold promise as a specific remedy against chronic hepatitis, influenza and other viral diseases in humans. [OW201443 Tokyo KYODO in English 1201 GMT 20 Dec 79 OW]

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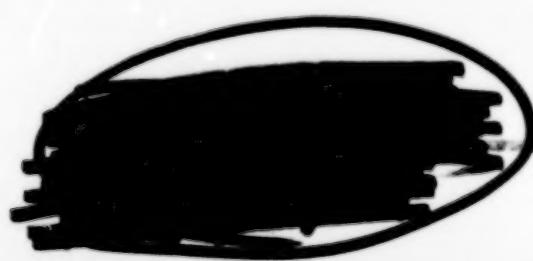
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